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Documents:

- 1) Supplemental Information Disclosure Statement Under 37 CFR §1.97 and §1.98
- 2) Form PTO/SB/08A/08B
- 3) Return Postcard

Applicant: Unger et al.

Application No.: 09/724,784

Filing Date: November 28, 2000

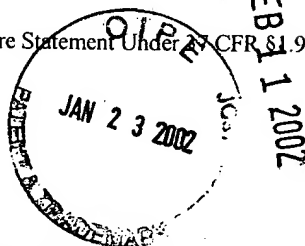
For: MICROFABRICATED ELASTOMERIC VALVE AND PUMP SYSTEMS

Date Due:

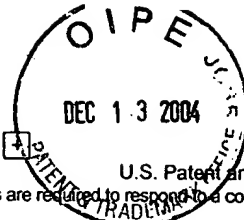
Date of Mailing: 12/14/2001

Attorney: KJT sec. crf

Attorney Docket: 20174C-003000US



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RPTO/SB/21 (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/724,784
Filing Date	11/28/2000
First Named Inventor	Unger
Group Art Unit	1772
Examiner Name	Unassigned
Attorney Docket Number	20174C-003000US

Total Number of Pages in This Submission

1

ENCLOSURES (check all that apply)

- | | | |
|--|--|--|
| <input type="checkbox"/> Fee Transmittal Form
<input type="checkbox"/> Fee Attached
<input type="checkbox"/> Amendment / Response
<input type="checkbox"/> After Final
<input type="checkbox"/> Affidavits/declaration(s)
<input type="checkbox"/> Extension of Time Request
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<input checked="" type="checkbox"/> Information Disclosure Statement
<input type="checkbox"/> Certified Copy of Priority Document(s)
<input type="checkbox"/> Response to Missing Parts/ Incomplete Application
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Assignment Papers (for an Application)
<input type="checkbox"/> Drawing(s)
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<input type="checkbox"/> Petition Routing Slip (PTO/SB/69) and Accompanying Petition
<input type="checkbox"/> Petition to Convert to a Provisional Application
<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address
<input type="checkbox"/> Terminal Disclaimer
<input type="checkbox"/> Request for Refund
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<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
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<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
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Remarks

The Commissioner is authorized to charge any additional fees to Deposit Account 20-1430.
Total number of pages does not include cited references.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm and Individual name	Townsend and Townsend and Crew LLP Kent J. Tobin Reg No. 39,496
Signature	
Date	December 14, 2001

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date:

December 14, 2001

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Chris Fitting

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PA 3189988 v1



PATENT
Attorney Docket No.: 20174C-003000US
Client Reference No.: 3016-CIP1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Marc Unger et al.

Application No.: 09/724,784

Filed: November 28, 2000

For: MICROFABRICATED
ELASTOMERIC VALVE AND PUMP
SYSTEMS

Examiner: Unassigned

Art Unit: 1772

**SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT UNDER 37 CFR
§1.97 and §1.98**

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

The references cited on attached form PTO/SB/08A/08B are being called to the attention of the Examiner. In accordance with CFR §1.98(d), copies of the references can be found in Application No. 09/605,520, filed June 27, 2000 (Attorney Docket No. 20174C-000230US). It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information, and no inference should be made that the information and references cited are, or are considered to be material to patentability because they are in this statement. No inference should be made that the information and references cited are prior art merely because they are in this statement.

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Respectfully submitted,



Kent J. Tobin
Reg. No. 39,496

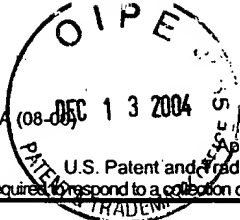
TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
Tel: 650-326-2400
Fax: 650-326-2422
KJT:crf

PA 3189995 v1

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PTO/SB/08A (08-08)



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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

1

of

2

Complete if Known

Application Number	09/724,784
Filing Date	11/28/00
First Named Inventor	Unger
Group Art Unit	1772
Examiner Name	Unassigned
Attorney Docket Number	20174C-003000US

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				

Examiner
Signature

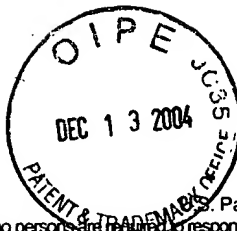
Date
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/724,784
		Filing Date	11/28/00
		First Named Inventor	Unger
		Group Art Unit	1772
		Examiner Name	Unassigned
		Attorney Docket Number	20174C-003000US
Sheet	2	of	2

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	1	Ahn et al., "Fluid Micropumps Based on Rotary Magnetic Actuators," <u>Proceedings of 1995 IEEE Micro Electro Mechanical Systems Workshop (MEMS '95)</u> , held in Amsterdam, Netherlands on 1/29-2/2/95, pgs. 408-412 (1995).	
	2	Benard et al., "A Titanium-Nickel Shape-Memory Alloy Actuated Micropump," <u>Proceedings of Transducers '97</u> , 1997 International Conference on Solid-State Sensors and Actuators, held in Chicago, IL, 6/16-19/1997, 1:361-364 (1997).	
	3	Gerlach, T., "Pumping Gases by a Silicon Micro Pump with Dynamic Passive Valves," <u>Proceedings of Transducers '97</u> , 1997 International Conference on Solid-State Sensors and Actuators, held in Chicago, IL, 6/16-19/1997, 1:357-360 (1997).	
	4	Jerman, H., "Electrically-Activated, Normally-Closed Diaphragm Valves," <u>Proceedings of Transducers '91</u> , 1991 International Conference on Solid-State Sensors and Actuators, pages 1045-1048 (1991).	
	5	Olsson et al., "Simulation Studies of Diffuser and Nozzle Elements for Valve-less Micropumps," <u>Proceedings of Transducers '97</u> , 1997 International Conference on Solid-State Sensors and Actuators, held in Chicago, IL, 6/16-19/1997, 2:1039-1042 (1997).	
	6	Shoji et al., "Smallest Dead Volume Microvalves for Integrated Chemical Analyzing Systems," <u>Proceedings of Transducers '91</u> , 1991 International Conference on Solid-State Sensors and Actuators, pages 1052-1055 (1991).	
	7	Vieider et al., "A Pneumatically Actuated Micro Valve with a Silicone Rubber Membrane for Integration with Fluid-Handling Systems," <u>Proceedings of Transducers '95</u> , the 8th International Conference on Solid-State Sensors and Actuators and Eurosensors IX, held in Stockholm, Sweden on 6/25-29/95, 2:284-286 (1995).	
	8	Xia et al., "Micromolding in Capillaries: Applications in Material Science," <u>J. American Chemical Society</u> , 118:5722-5731 (1996).	
	9	Yang et al., "A MEMS Thermopneumatic silicone Membrane Valve," <u>Proceedings of the IEEE 10th Annual Workshop of Micro Electro Mechanical Systems Workshop (MEMS '97)</u> , held 1/26-30/97 in Nagoya, Japan, pages 114-118 (1997).	

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

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PA 3189990 v1



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Documents:

- 1) Information Disclosure Statement Under 37 CFR §1.97 and §1.98
- 2) Form PTO/SB/08A/08B
- 3) **8** References
- 4) Return Postcard

Applicant: Marc Unger et al.

Application No.: 09/724,784

Filing Date: November 28, 2000

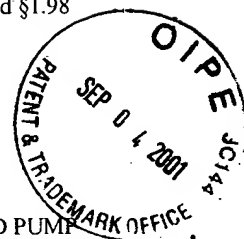
For: MICROFABRICATED ELASTOMERIC VALVE AND PUMP
SYSTEMS

Date Due:

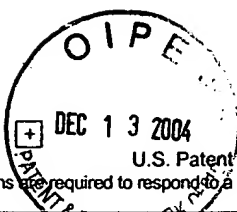
Date of Mailing: 8/29/2001

Attorney: KJT sec. crf

Attorney Docket: 020174-003000US



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RPTO/SB/21 (08-00)

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/724,784
Filing Date	11/28/2000
First Named Inventor	Marc A. Unger
Group Art Unit	1772
Examiner Name	Unassigned
Attorney Docket Number	20174003000

Total Number of Pages in This Submission

1

ENCLOSURES (check all that apply)

- | | | |
|---|--|--|
| <input type="checkbox"/> Fee Transmittal Form
<input type="checkbox"/> Fee Attached
<input type="checkbox"/> Amendment / Response
<input type="checkbox"/> After Final
<input type="checkbox"/> Affidavits/declaration(s)
<input type="checkbox"/> Extension of Time Request
<input type="checkbox"/> Express Abandonment Request
<input checked="" type="checkbox"/> Information Disclosure Statement
<input type="checkbox"/> Certified Copy of Priority Document(s)
<input type="checkbox"/> Response to Missing Parts/
Incomplete Application
<input type="checkbox"/> Response to Missing
Parts under 37 CFR
1.52 or 1.53 | <input type="checkbox"/> Assignment Papers
(for an Application)
<input type="checkbox"/> Drawing(s)
<input type="checkbox"/> Licensing-related Papers
<input type="checkbox"/> Petition Routing Slip (PTO/SB/69)
and Accompanying Petition
<input type="checkbox"/> Petition to Convert to a
Provisional Application
<input type="checkbox"/> Power of Attorney, Revocation
Change of Correspondence Address
<input type="checkbox"/> Terminal Disclaimer
<input type="checkbox"/> Request for Refund
<input type="checkbox"/> CD, Number of CD(s) | <input type="checkbox"/> After Allowance Communication to
Group
<input type="checkbox"/> Appeal Communication to Board of
Appeals and Interferences
<input type="checkbox"/> Appeal Communication to Group
(Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Status Letter
<input checked="" type="checkbox"/> Other Enclosure(s)
(please identify below):
1) none cited references
2) Return receipt postcard |
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Remarks

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Total number of pages does not include cited references.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm and Individual name	Townsend and Townsend and Crew LLP Kent J. Tobin Reg No. 39,496
Signature	
Date	August 28, 2001

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PA 3166880 v1



PATENT
Attorney Docket No.: 20174-003000US
Client Reference No.: 3016-CIP1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Marc Unger et al.

Application No.: 09/724,784

Filed: November 28, 2000

For: MICROFABRICATED
ELASTOMERIC VALVE AND PUMP
SYSTEMS

Examiner: Unassigned

Art Unit: 1772

**INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR §1.97 and §1.98**

Assistant Commissioner for Patents
Washington, D.C. 20231

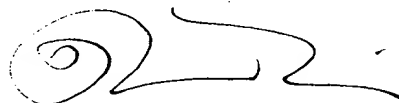
Sir:

The references cited on attached form PTO/SB/08A/08B are being called to the attention of the Examiner. In accordance with CFR §1.98(d), copies of the references can be found in Application No. 09/605,520, filed June 27, 2000 (Attorney docket No. 20174-000230US), with the exception of reference numbers 1, 24, 28, 52, 59, 63, 67 and 75, copies of which are enclosed herewith. It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information, and no inference should be made that the information and references cited are, or are considered to be material to patentability because they are in this statement. No inference should be made that the information and references cited are prior art merely because they are in this statement.

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Respectfully submitted,



Kent J. Tobin
Reg. No. 39,496

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
Tel: 650-326-2400
Fax: 650-326-2422
KJT:crf

PA 3161641 v1

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PTO/SB/08A (08-00)

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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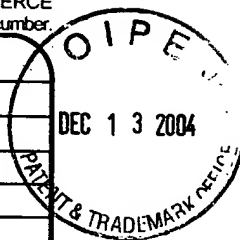
INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 2

Complete if Known

Application Number	09/724,784
Filing Date	11/28/00
First Named Inventor	Marc A. Unger
Group Art Unit	1772
Examiner Name	Unassigned
Attorney Docket Number	20174003000



U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	1	6,174,365	B1	Sanjoh	01-16-2001	
	2	6,007,309		Hartley	12-28-1999	
	3	5,876,187		Afromowitz et al.	03-02-1999	
	4	5,836,750		Cabuz	11-17-1998	
	5	5,759,014		Van Lintel	06-02-1998	
	6	5,705,018		Hartley	01-06-1998	
	7	5,659,171		Young et al.	08-19-1997	
	8	5,529,465		Zengerle et al.	06-25-1996	
	9	5,376,252		Ekstrom et al.	12-27-1994	
	10	5,375,979		Trah	12-27-1994	
	11	5,336,062		Richter	08-09-1994	
	12	5,265,327		Faris et al.	11-30-1993	
	13	5,259,737		Kamisuki et al.	11-09-1993	
	14	5,224,843		Van Lintel	07-06-1993	
	15	5,171,132		Miyazaki et al.	12-15-1992	
	16	5,096,388		Weinberg	03-17-1992	
	17	5,085,562		Van Lintel	02-04-1992	
	18	4,153,855		Feingold	05-08-1979	
	19	4,119,368		Yamazaki	10-10-1978	



FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
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	21	WO	98/07069	A1		02-19-1998		
	22	EP	999 055	A2		10-05-2000		
	23	EP	845 603	A1		06-03-1998		
	24	EP	829 360	A2		03-18-1998		
	25	EP	779 436	A2		06-18-1997		
	26	EP	706 004	A2		04-10-1996		
	27	EP	703 364	A1		03-27-1996		
	28	EP	592 094	A2		04-13-1994		
	29	GB	2 308 460	A		06-25-1997		
	30	GB	2 155 152	A		09-18-1985		

Examiner Signature		Date Considered	
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 3

Complete if Known

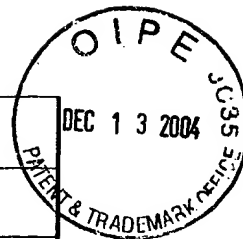
Application Number	09/724,784
Filing Date	11/28/00
First Named Inventor	Marc A. Unger
Group Art Unit	1772
Examiner Name	Unassigned
Attorney Docket Number	20174003000

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	31	Brechtel et al., "Control of the electroosmotic flow by metal-salt-containing buffers," <u>J Chromatography A</u> , 716:97-105 (1995).	
	32	Bryzek et al., "Micromachines on the march," <u>8045 IEEE Spectrum</u> , 31(5):20-31 (1994). XP 000456261	
	33	Buchaillot et al., "Silicon Nitride Thin Films Young's Modulus Determination by an Optical Non-Destructive Method," <u>Jpn. J. Appl. Phys.</u> , 36 Pt. 2(6B):L794-L797 (1997).	
	34	Chiu et al., "Patterned deposition of cells and proteins onto surfaces by using three-dimensional microfluidic systems", <u>PNAS</u> , 97(6):2408-2413 (2000).	
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